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The Origin and History of the Minaret.—By RICHARD
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THE minaret is usually considered to be one of the most distinctive features of the Muhammadan mosque and the history of its origin is naturally of interest to the student both of Islam and of the history of architecture. But unlike the Mihrāb (prayer-niche) and Minbar (pulpit), the references to the minaret in Arabic literature are very few; and the traditions that have gathered around it are so scarce as to make one feel that the religious significance that attaches to the Mihrāb and the Minbar are entirely wanting in the Minaret. Indeed, the name itself is strange, and in no way expressive of the purport for which the object was built. The word منارة can have meant originally only "an object that gives light". As such, it is used in old Arabic poetry for the oil lamp or rush light used in the cell of the Christian monk, exactly parallel to the Syriac *mⁿārtā*;¹ from which, however, it is not necessary to derive the word, as Guidi and Fraenkel² have done, seeing that the formation is perfectly regular. It is then used for a "light-tower" or "light-house";³ the signification "a monk's cell or chamber for retirement", given by Lane⁴ from the *Kanz al-Mārūf* must be a late and a local one. Schwally has suggested,⁵ and he is followed by Doutté,⁶ that the application of the word *manārat*^{an} to the tower of a mosque is due to the light held by the Muezzin as he recites the call to prayer at night which gives the onlooker below the idea of a light-tower; but the explanation strikes one as involved and far-fetched. The transfer of the name from a light-tower

¹ Guidi, *Della sede primitiva dei popoli Semitici*, p. 38. Cfr. e. g. Imrulkais (ed. Ahlwardt) 148, 37. Ibid. 152, 20 منارة = مصباح.

² Guidi, *loc. cit.*, p. 37; Fraenkel, *Aramäische Fremdwörter*, p. 270.

³ See, e. g., the description of the lighthouses of the coast of Syria in al-Mukāddasi (Ed. de Goeje), p. 177.

⁴ p. 1728. ⁵ *ZDMG.* 52, 145.

⁶ *Les Minarets et l'appel à la prière* in *Revue Africaine*, 43, 339.

to the tower of a mosque must have been occasioned by the resemblance of the one to the other. It is impossible to fix the time at which this transfer was made. The earlier and more significant designation of the minaret is *mi'dhanah* or *mīdhanah* (pronounced in the language of the street *ma'dhanah*)¹ —“a place from which the time of prayer is *announced*”; but it occurs seldom in the literature of the Middle Ages, and seems to have been driven out completely by the more common word *manārah*.

It is generally conceded that the earliest mosque in Islām had no minarets at all.² The mosques built in the days of Mohammed at Kúbā and Medinah were so simple that there was no place for building anything like a tower, even if the means and the necessary skill had been available. Caetani, in his monumental *Annali di Islam*,³ has shown that the mosque at Medinah was, at first, intended simply as a *dār* or private dwelling for the prophet and his family: there was no intention to build a place of assembly for the faithful. A court with a portico around it, through which one entered into the living-rooms of the family was all that it contained. The whole was surrounded by a wall which was to preserve the privacy of the *dār*. We have here, in embryo, the open *Ṣaḥn* and the closed *Līwān* of the later mosques. Bilāl, the first Muezzin, was in general the herald of Mohammed, not only the caller to prayer. The *Adhān* itself was copied from the Christians and the Jews.⁴ Ibn Hishām tells us that when

¹ Or *mād'na*; Lane, *Cairo Fifty Years Ago*, p. 78. In a story told in *Kitāb al-Aghānī* xx, 85 ماذنة, منارة and صومعة are used promiscuously.

² The historians of architecture, then, go too far when they say, as does Adamy, *Architektonik auf historischer und ästhetischer Grundlage*, II, 16: “Ein oder mehrere Türme, Minarets, waren gleichfalls notwendige Bestandteile für die Moscheen”. So, also, Adolf Föh, *Grundriß der Geschichte der bildenden Künste* (Freiburg 1897) p. 272: “wesentlich waren endlich die Minarets”; and Lübke, *Grundriß der Kunstgeschichte*, 13th ed. II, 70: “Minarets... sind ebenfalls unumgänglich”. The *Adhān*, itself, however, is necessary; Dardīr, *Sharḥ al-arab al-masālik* p. 46: الاذان سنة مؤفدة بكل مسجيد.

³ I, 438 et seq.

⁴ Of course, Mohammedans do not admit this: in fact, the Jews are presumed to have been surprised; al-Zurkānī, *Sharḥ al-Muwatta*, 121: وذكر اهل التفسير ان اليهود لما سمعوا الاذان قالوا لقد ابدعت يا محمد شيء لم يكن فيما مضى. Mohammedan Scholastics have all sorts of conceits in regard to the origin of the *adhān*, e. g. that Gabriel was

the first Moslems came to Medinah they prayed without any preliminary *adhān*.¹ But the Moslems heard the Jews use a horn,² and the Christians the *Nākūs* or clapper (the so-called *ἀγία ξύλα* or *σημεντρόν*, a long piece of wood struck with a flexible *wabīl*, the Aramaic *nākōshā*, which is still in use among the Nestorians³); and they wanted something similar for their own use. So Mohammed gave the command "Rise, O Bilāl, and summon to prayer!" Later tradition has embellished this simple account. Al-Nawawī gives the words in this wise "Go to some prominent place and summon to prayer".⁴ It was quite natural that Bilāl should make use of a position from which he could best be seen and heard. Upon one occasion, during the *Umrāt al-Ḳaṣā* in the year 7, Mohammed ordered Bilāl to recite the *Adhān* from the top of the Ka'bah;⁵

the first to recite it in heaven (al-Sharkānī, *Hāshiyah* I, 231), and that Adam or Abraham was the first on earth to follow the custom (al-Zurkānī, *loc. cit.*).

¹ ed. Wüstenfeld, p. 347: وقد كان رسول الله حين قدموا انما يجتمع كان المسلمون *الناس للصلاة بغير دعوة*; al-Ḳaṣṭallānī, *Irshād al-Sārī* II, 3 *حين قدموا المدينة يجتمعون فيتبعون الصلاة ليس ينادى لها*. Cfr. Muslim, *al-Sahīḥ* (Delhi 1309), p. 164; al-Zurkānī, *Sharḥ al-Muwatta*, p. 121.

² As far as we know, the Jews used the horn (*shōfār*) only on certain festivals. On the Arabic pronunciation of *شُتُور* see al-Ḳaṣṭallānī (*loc. cit.*) ويسمى الشُّبُور بفتح الشين المعجمة تشديد الموحدة المضمومة (= שִׁפּוּרָא; cfr. Jawālīkī, ed. Sachau, p. 94; Ibn Hishām, ed. Wüstenfeld II, 108). The earlier traditions use the word *قرن* (Muslim, *al-Sahīḥ*, p. 164) or *بوق* (Ibn Hishām I, 348; al-Zurkānī, *Sharḥ al-Muwatta*, p. 121; al-Sī'ūtī, *al-Ḥaṣā'is al-Kubra*, Hyderabad 1319, I, 196). Another word used appears in various forms: *قنق*, *قنق*, *قنق*, *قنق* (Ibn Hishām II, 108). *Lisān* (X, 131, 174) and *Tāj al-'Arūs* (V, 478) decide for *قنق*, though there are authorities against them. Another, and later, tradition mentions a fire-signal: *ذكروا ان يعلموا وقت الصلاة بشيء يعرفونه فذكروا ان يشفع الاذان ينوروا نارا او يضربوا ناقوسا وامر بلال ان يشفع الاذان* Muslim *loc. cit.*; al-Bukhārī (ed. Krehl) I, 75; Zurkānī, *loc. cit.*; Ibn Hishām II, 108 (note in one Ms.).

³ Payne-Smith, *Thesaurus Syriacus* 2466. The *Nākūs* was indeed used at first for the early morning *adhān* in Fostat; al-Makrīzī, *al-Khiṭaṭ*, 2nd ed., iv, 8. On the use of the word in the older poetry, see Jacob, *Das Leben der vorislam. Araber*, pp. 85, 122 and Doutté, *Les Minarets*, passim.

⁴ *الى موضع بارز*: al-Ḳaṣṭallānī, *ibid.* p. 3; Zain al-'Abīdīn, *al-Bahr al-Rā'ik*, p. 268 *ويست الاذان في موضع عال*.

⁵ Ibn Saad, *Biographien*, ed. Sachau, III, 1, p. 167; Wellhausen, *Mohammed in Medinah*, p. 302. Ibn Hishām, p. 822, says only that Mohammed ordered Bilāl to recite the *adhān*; but see *Die Chroniken der Stadt Mekka*, iv, 109.

which to some of the Meccans appeared to be an unholy act. Upon another occasion, so the tradition runs, Bilāl issued the call from the top of a high house that happened to be in the neighbourhood of the mosque;¹ and in the time of the Umayyads, the poet al-Farazdak still speaks of the *Adhān* as being pronounced "on the wall of every city".² Even in the later law books it was laid down that "the Muezzin, if he is on the road, may call to prayer while riding; if he descends (from his beast) he must halt, but if he is riding, he need not halt".³ The example set by Mohammed, and especially by Bilāl, was followed; even though no formal prescription can be found in reference to the ceremony. If the Mosque is large, says a later authority, "there is no harm if a Muezzin call to prayer from each one of its sides, so that all that are near it may hear him at one and the same time."⁴

There is then, as will be seen, no mention of a special place for the Muezzin. We first hear of minarets in connection with the mosque of Medinah under the Umayyad Walid ibn 'Abd al-Malik (86-96 A. H.).⁵ This holds good, also, for the early mosques built outside of the *Balad al-Ḥarām*.⁶ The mosque of Kufah was built by Sa'd ibn abī al-Waḳḳās in the year 17;⁷ and that of Basra by Abī Mūsa al-Ash'arī in the same year;⁸ but in connection with neither of these is anything said about a minaret. The one attached to the Basra mosque is said to have been added by Ziyād ibn Abī Sufyān during the Caliphate of Mu'āwiyah.⁹ One of the earliest mosques built was that of 'Amr ibn al-Āṣī in Fostat, Egypt. It was,

¹ Ibn Hishām p. 348; Zain al-Ābidīn, *Al Baḥr al-Rā'ik* p. 268 'Abd al-Rahmān ibn al-Ḳāsim, *Kitāb al-Mudawwanah* I, 60 in the name of Mālik ibn Anas., al-Shāfi'ī. *Risālah* II, 152 وقد رأيت بعض المؤذنين يصلى على ظهر المسجد الحرام بصلاة الامام (حدثنا اصحابنا). Cfr., also, al-Ṣi'ūṭī, *al-Ḥaṣā'is al-Kubra* I, 196 (but only اصحابنا).

² وحتى علا في سور كل مدينة منار ينادى فوقها باذان cited on the authority of Ibn Barrī, *Lisān* XVI, 150.

³ 'Abd al-Rahmān ibn al-Ḳāsim in note 1.

⁴ al-Ḳaṣṭallānī II, 17.

⁵ Schwally in *Z. D. M. G.* LII, 143, citing al-Sambūḍī.

⁶ For the mosques built in the Maghreb, see W. and G. Marçais, *Les monuments arabes de Tlemcen* (Paris 1903), p. 46.

⁷ al-Bilādhurī (ed. de Goeje), p. 275; Yāḳūt IV, 325.

⁸ al-Bilādhurī, pp. 346, 347; Yāḳūt I, 640.

⁹ al-Bilādhurī, p. 348.

to judge from the accounts, a very simple building, without even a concave *mīhrāb* and with a very low roof:¹ and certainly, it had no minaret. There is a definite tradition that before the time of Maslamah ibn Mukhallid, one of Mu'āwiyah's governors in Egypt (ca. 36 A. H.), there was no elevated place at all for the Muezzin. Mu'āwiyah ordered him to increase the size of the mosque and "to build *ṣawāmi'*" for the *adhān*. So Maslamah constructed for the *jāmi'* four *ṣawāmi'* at its four corners. He was the first one to construct them in it; they having not existed before this time . . . the stairway, by means of which the Muezzins mounted was in the street, until Khālid ibn Sa'īd transported it inside the mosque". What the *ṣaumā'ah* was, we do not know. The Arabic lexicographers derive it from a root meaning "to be sharp, pointed" or "to be provided with points or teeth";² but the root is one that is very rare in Arabic and it has no congener in the other Semitic tongues³. The word seems to have come to the Arabs from the name given to the cell of the Christian monk—perhaps in connection with the Stylites who lived on the top of a pillar. At least, both Bar 'Alī⁴ and Bar Bahlūl⁵ gloss

¹ al-Makrīzī, *al-Khitāṭ*, 2nd ed. IV, 6; Abu-l-Maḥāsīn I, 76; Lane-Poole, *The Story of Cairo*, p. 42. The same is true of the *Jāmi'* al-Askar, the second mosque built in Cairo.

² *Tāj al-'Arūs* V, 411: الصومعة كجوهرة بيت النصرارى ومغار للراهب . . . سميت لدقة رأسها وقال سيبويه الصومعة من الاصمغ والصومعة منار الراهب: Lisān X, 76: والصومعة المنارة وهى فى Zain al-'Abidīn, *al-Bahr al-Rā'ik*, p. 268: والاصل متعبد الراهب ومن المبحاز قولهم للثريدة اذ ارفع وسطها وحدد راسه ودقق الصومعة يقال لا تهور الصومعة وجاءوا بثريدة مصمعة وجاءوا عليهم الصوامع والصومعة i. e. a sort of cloak: so, also, al-Jauharī s. v.: كجوهرة بيت النصرارى لصومع لدقة فى رأسها والعقاب لارتفاعها ولا اكره ان ينطوى والبرنس وذروة الثريد. In some traditions, the word is used for the place of the Muezzin; al-Sarakshī, *al-Masbūṭ* I, 138: وفى صومعته; and cfr. Idrīsī, ed. Dozy and de Goeje, 139, 9.

³ Georg Hoffmann (*Z. A.* IX, 336) connects with it the word زوبعة "a whirlwind of dust". Similar formations are discussed by al-Sī'ūṭī, *Muzhīr* II, 77.

⁴ Ed. Hoffmann, No. 968.

⁵ Ed. Duval 221, 26. Al-Kindī, in his account of 'Ain Shams, says that the figures upon the obelisks are covered by a *صومعة*; which, of course, can mean only "a pointed hat" or "tapering hood" (Oestrup in *Bulletin de l'Acad. Royale de Danemark*, 1896, No. 4. p. 200) whence the

the Syriac *estōnā* by *ṣauma'ah*; and when the Caliph al-Walīd mounted up to the southern tower of the great Church in Damascus before demolishing it, he found a monk living there in a sort of hermitage (*ṣauma'ah*), which he refused to leave.¹ In the twelfth century the traveller Ibn Jubair found the custom still prevalent; a Mohammedan anchorite inhabited the western minaret,² which place the philosopher al-Ghazālī used as a retreat. It is only in the Maghreb that the term *ṣauma'ah* remained in use among the Mohammedans.³ Ibn Abi Zar' in his description of the mosque of the Kairuanese at Fez uses it interchangeably with *manārah*.⁴ It has gone over into Spanish as "zoma".⁵

Nor does it seem that all mosques, even in later times, had minarets;⁶ and the historians of architecture go too far when they describe them as necessary parts of the building. Al-Nu'aimī, who lived in the fifteenth century (or his epitomizer), in his description of the city of Damascus,⁷ gives us a more or less complete account of two hundred and one mosques; to which he adds twenty-eight by name only. He is very careful to mention the peculiarities of each building. But only twenty of the whole number are said to have had minarets. It is difficult to imagine that he makes mention of the fact only when the minaret was in some way noteworthy:

note has gone, through Ibn Zūlāk, into Yāqūt III, 763, and from here into al-Maḳrīzī I, 31, al-Kazwīnī I, 149 and indirectly into al-Šif'ūtī, *Ḥusn al-Mukhādārah* I, 32. Ibn Iyās (in Arnold, *Chrestomathia* p. 56) has *صومعة* for *قلنسوة*.

¹ Al-Nu'aimī, *Tanbīh al-Tālib* in *J. A.* ix Ser. VII, p. 189; Muḥammed ibn Shākir, *Uyūn al-Tawārikh* in Quatremère, *Histoire des Mamlouks* II, p. 264. On al-Walīd's activity in building mosques, see de Goeje, *Fragmenta* pp. 4, 3; 12, 7.

² Ed. de Goeje p. 266, 19; Fr. Schiaparelli p. 257.

³ W. and G. Marçais, *Les Monuments arabes de Tlemcen* (Paris 1903), p. 45.

⁴ *الانيسى المطرب* ed. Tornberg, pp. 30-32.

⁵ P. de Gayangos, *History of the Mohammedan Dynasties in Spain* I, notes p. 499; though this is doubtful. The word was entered in the first ed. of Engelmann, *Glossaire des Mots espagnoles* (Leiden 1861) p. 99, but it is omitted in the second ed. (1869) by Dozy.

⁶ Therefore, if there is no minaret, the *adhān* is to be recited at the door; al-Ramlī, *Nihāyat al-Muhtāj* (Cairo 1886) I, 305: *لو لم يكن للمسجد منارة سن ان يؤذن على الباب*.

⁷ See Sauvaire in *J. A.* ix Ser. VI, 409 et seq.

for, in most cases, the mere fact is adduced or the additional note that it was made of wood or was recently constructed. The conclusion to be drawn is that out of the large number of mosques in the city, only very few were provided with minarets.

In the same manner at Jerusalem, neither the *Kubbat al-Sakhrā* nor the *Masjid al-Aḥsā* had a minaret; the style of their architecture, of course, made it impossible. At a later time, four were added on the Ḥaram area. The only author that seems to mention them is Mujir al-Dīn (a late writer of the fifteenth century), who asserts that those that were to be seen at his day occupied the same position as did their predecessors during the reign of 'Abd al-Malik (72 A. H.).¹

The origin of the minaret is not apparent at first sight. Franz Pascha, in his "Baukunst des Islam"² sees no connection with the architecture of any other faith or race: "Ohne Vorbild wurden die Minarete . . . erfunden"; with which Pool is³ in substantial agreement: "With Christians, bells doubtless led to the idea of towers, and with Moslems the call to prayers by the human voice led to minarets". Schwally,⁴ however, looks for some outside influence, but does not find it: "Wahrscheinlich sind die Muslime nicht von selbst auf diese Gebetstürme verfallen. Aber wo sind die Vorbilder, durch die ihre Architekten oder Bauherren bestimmt wurden, zu suchen?"

From what has preceded it is evident that the idea of the minaret arose during the 'Umayyad dynasty and in Syria. In part, it was copied from the towers of the Christian Churches. Whether the *ṣawāmi'* which Mu'āwiyah ordered his lieutenant in Egypt to build on the mosque of 'Amr, were towers of any pretensions, we know not. But the suggestion of a tower as the place from which the call to prayers was to be made, or as belonging to a religious edifice seems to have come from the great church in Damascus which al-Walīd finally turned into a mosque. Mohammad ibn Shākir says expressly⁵ that

¹ *Uns al-Jalīl* (Cairo 1283), p. 379.

² *Handbuch der Architektur*, 1886, II, 17.

³ *Studies in Mohammedanism*, 1892, p. 336.

⁴ *Z. D. M. G.* LII, 144.

⁵ Quatremère, *Histoire des Mamlukes* II, 273; *J.A.* 1896, ix Sér. VII, 423. In fact "at each angle of this temple there was a small tower erected

the western and eastern minarets existed a long time before the days of al-Walid. Al-Walid built the northern one called *ma'dhanat al 'Arūs*, after a favourite designation of the city as "the bride of the world".¹ What these towers had been used for is not certain; the variations in Mohammedan traditions seem to evidence this uncertainty. The one upon which al-Walid mounted is said to have been called *al-Sā'ah*, which would suggest a clock tower. Yāqūt has the tradition that this same minaret was originally a fire-temple and that a flame rose up from it into the air.²

But there was a more general influence at work, of which the towers on the Damascus church are only one expression. The earlier explorations of de Vogüé and the more recent ones of the Princeton expedition to Northern Syria leave little doubt that the Church at Damascus merely followed, in respect of its towers, an older Syrian and (we may add) Mesopotamian tradition. In the basilica of Tafḥa, which competent authorities date from the fourth and fifth centuries, de Vogüé sees the transition from the Roman basilica used for civil purposes to the Christian Church: "to the right of the façade", he says, "there is added a tower in three stages"—a style of architecture common in the Ḥaurān.³ One has only to study the construction of the other Syrian Basilica—e.g. at Ḥāss (fourth century),⁴ at Kaṣr al-Banāt (fifth century),⁵ of Kalb-Luzeh and Termānīn (sixth century) to see here the origin of the church steeple.

This Syrian and Mesopotamian tradition leads us back—of course—to the Ziggurats of the old Babylonian and Assyrian shrines. With regard to the Syrian Christians, the evidence is not more direct than that sketched above. Even if such Ziggurats had been standing in their day, they were too fervent anti-idolaters to have adopted anything as specially heathen as a Ziggurat would have appeared to them. In building towers they merely followed the architectural tradition as it

by the Greeks for astronomical purposes"; Guy le Strange, *Palestine under the Moslems*, p. 230.

¹ Muḳaddasī, p. 159.

² II, 596.

³ *La Syrie Centrale*, I, 57; Butler, *The American Archaeological Expedition to Syria*, p. 409.

⁴ See illustration in Butler, *loc. cit.* p. 220; who, however, places it in the sixth century.

⁵ Butler, *loc. cit.* p. 156.

was current in the country; for such towers were not uncommon in other than religious edifices—in large houses and even in connection with funeral monuments.¹ It was different with the Mohammedans. They showed very little distaste to accept ideas, formulas, as well as architectural and other traditions from systems that had preceded them or were even their rivals. What originality Islam possesses lies more in the ethical and religious fervour which they imported into that which they borrowed. The proof of this, in the present connection, is to be seen in the two minarets of Samarra: the so-called Mauliyyah and the minaret of the mosque of Abū Dulaf.

During the last two years, these have been the subject of careful investigation on the part of two travellers—the General de Beylié and Ernst Herzfeld. De Beylié's *Prome et Samarra*² is valuable especially because it gives us, in addition an observant description of the mosque of Abū Dulaf, about fifteen kilometres north of Samarra in the very heart of the desert, and which has, also, a helicoidal minaret. Herzfeld's work is³ strong on the historical and archaeological side. Herzfeld holds that the architects of al-Mutawakkil, in building the minaret of Samarra (850) followed a tradition which they had brought with them from Persia, and that this minaret goes back to the Ziggurat through Persian affiliations—more specifically through the celebrated Tīrbāl of Gōr or Phiruzābād. He seems to deduce this from the fact that this was the only Ziggurat at the time that had retained sufficient of its old form to serve as a model. The point must remain undecided. At least as late as the fourth century—as Herzfeld himself admits—Ammian mentions such a tower at the Nahar Malka near Ctesiphon and Zozimus knew of several at Bersabra, i. e. al-Ambār. The Borsippa tower which was described by Harpocriton in his *Cyranides* 365-355⁴ B. C. and which was in use under the Seleucid kings up to 296 B. C. was still recognized as a Ziggurat by the Jewish traveller Benjamin

¹ De Vogüé, *loc. cit.*; Kraus, *Geschichte der Christlichen Kunst* I, 308 speaks of these small towers as "die zu den Emporen führenden Treppen aufzunehmen." ² Paris 1907.

³ *Samara*, Berlin 1907. An illustration of the Samarra minaret can also be seen in Sachau, *Am Euphrat und Tigris*, p. 86.

⁴ De Miely in *Revue Archaeologique*, 1900, p. 412.

of Tudela in the twelfth century.¹ That which distinguishes the Samarra minarets from the tower at Gōr and from the relics mentioned by the writers of the fourth century is the fact that it is helicoidal or round. Dieulafoy says expressly of the tower at Gōr² that "each of the stages is square and less in size than the preceding one". Ammian compares the tower at the Nahar-Malka with the Pharos at Alexandria, which evidently was not purely helicoidal. The idea that is peculiar to them all is that of a tower with an outside ramp; and it seems evident that we must look for the original of both the helicoidal and the square or staged tower in the Babylonian Ziggurat.

It must, however, be confessed that cogent proof of this statement can not at present be given. Herzfeld believes that the Ziggurat was simply a massive pile of bricks with an outer ascending ramp and that the Babylonians and Assyrians did not build what we are accustomed to call "staged-towers". He also holds that they were not merely portions of the Temple proper or adjunct to it; but that they also served as fortresses and were used for astronomical purposes. But it seems to me that he is mistaken in his interpretation of what evidence we have regarding the Ziggurat. When one commences to sift that evidence, it becomes surprisingly meagre; and we can reasonably doubt whether—as is currently believed—every temple had a Ziggurat. The following, however, seems to me to be sufficient to prove that the Ziggurat was indeed a stage-tower.³

a. The ruins of the so-called "observatory" at Khorsabad. This is distinctly stated to contain evident traces of three stages and a part of a fourth—each stage receding from the one below it.⁴

¹ *J. Q. R.* XVII, 519.

² *L'art antique de la Perse*, IV, 52.

³ I have omitted those remains that have not been definitely examined; e. g. at Kalah Shergat—"Trümmer etwa von einem Tempel, einem Stufenturm oder einem anderen monumentalen Bau"; Sachau, *Am Euphrat und Tigris*, p. 113.

⁴ On the authority of Place, Perrot and Chipiez, *Histoire de l'art dans l'antiquité*, II, 403. At Assur the height neither of the older towers nor of that of Shalmanezer II can now be determined; W. Andrae, *Der Anu-Adad Tempel in Assur* (Leipzig 1909), pp. 13. 64—though in the reconstruction four stages are given.

b. The ruins of the stage-tower at Borsippa brought to light by Sir Henry Rawlinson. Three stages are said to be clearly defined. Hilprecht speaks of the "six or seven stages still to be recognized";¹ but upon what authority, I do not know. Its Babylonian name was E. UR. IMIN. ANKI, which Sumeriologists translate either as "Temple of the seven planets of Heaven and Earth" or "Temple of the seven directions (spheres) of Heaven and Earth" (*bīt sibitti ḥammamē šāmē u'irsitim*).² The name, however, need not necessarily stand in any relation to the architectural features of the tower or Ziggurat.

c. At Mughayyar Loftus³ seems to have found traces of two storeys of the Ziggurat, though his description is not at all clear. The second storey "recedes several feet from the lower wall", though it is closer to the edge of the first at its North-West end than at the South-East. He speaks of a gradual stepped incline between the two storeys, though its connection with the entrance in the lower storey is not defined. Taylor⁴ describes a staircase, three yards broad, leading up to the edge of the basement of the second storey; but no further traces appeared. There seems to be no positive evidence that we are at all in the presence of a Ziggurat.

d. For Birs Nimrūd we are dependent upon the general description given by Rich,⁵ who saw traces of at least four stages, each one receding from the one below. No mention is made of a rampart.

e. At Abu Sharain, also, there is little positive evidence of a Ziggurat. There is a large basal substructure upon which some edifice has been erected, and to which an inclined plane led up⁶. Too little has remained of the upper part to determine its character.

f. At Tell-Loh the excavators are said to have found the remains of some sort of a building with terraces receding one

¹ *Explorations in Bible Lands*, p. 184.

² Schrader, *K. A. T.*³ p. 616. Langdon, *Building Inscriptions of the New-Babylonian Empire* I, 57 translates: "House of the oracular deity of the seven regions of earth and sky".

³ *Travels and Researches in Chaldaea and Susiana*, p. 128.

⁴ *J. R. A. S.* XV, 261.

⁵ *Babylon and Persepolis*, p. 167.

⁶ Taylor in *J. R. A. S.* XV, 404.

from the other.¹ It is quite doubtful whether this is part of a Ziggurat at all.

g. At Nippur Hilprecht assumes that there was a Ziggurat of five stages, but no reason is given for this assumption; and I am not aware that the special monograph on the subject "E-kur, the Temple of Bêl at Nippur" has ever been published. He confesses that very little is left of the higher stages of the Ziggurat of Ur-Gur.² Haynes found only considerable remains of a sloping second terrace. Peters, however, thinks that there is sufficient warrant for supposing an original Ziggurat of two stories, upon which Ur-Gur built one of three.³ He confesses, however, that the two upper stages of Ur-Gur's Ziggurat "were so ruined by water that it was difficult to trace or restore them".⁴ Of the supposed causeway, only so much was found as lead up "to the top of the first terrace of the Ziggurat".⁵

h. At Bismaya, too, the results have been very unsatisfactory and hardly warrant the supposition that traces of a real Ziggurat have been found. According to Banks,⁶ the small amount of the rubbish in the place in which it is supposed to have been would warrant, at best, the conjecture of a Ziggurat of two or three stages. In fact, not more than one stage, in reality, was found with a flight of steps leading up and this may be nothing more than an elevated platform for some building. Further down in the so-called plano-convex temple, the base only of some building was unearthed: nothing compels us to hold that this was part of a temple-tower.

i. The so-called *Ṭirbāl* of Jaur or Gōr (*Firuzābād*). Herzfeld represents this to be also merely a tower "von quadratischem Grundriß mit äußerer Wendelrampe". But Dieulafoy, who has examined the ruins minutely says distinctly that the tower "is composed above the platform, of four stages . . . Each stage is square and recedes from the preceding one by a space equal to $\frac{1}{10}$ of the base".⁷

j. The account of the temple of Bel at Babylon given by Herodotus⁸. Whatever value we may place upon his trust-

¹ Perrot and Chipiez, *Histoire de l'art dans l'antiquité*, II, 398; Hilprecht, *loc. cit.* p. 232.

² *Loc. cit.* p. 374.

³ *Nippur*, II, 122, 124.

⁴ *Loc. cit.* p. 162.

⁵ *Loc. cit.* p. 147-8.

⁶ *A. J. S. L.* 1905, pp. 30-32.

⁷ *L'art antique de la Perse*, IV, 79, 85.

⁸ I, 180.

worthiness, there can be no doubt of the idea that he intended to convey. After mentioning the first tower, he speaks of an ἄλλος πύργος = another tower having been erected upon this first one (ἕτερος, i. e. πύργος), and so on up to the eighth.¹ He would hardly have described each one of these as an individual tower, if the whole had been one massive structure. Harpocriton, also, mentions three towers superimposed as still standing in his days; and he did not regard it as one single tower.² And finally, Benjamin of Tudela, though much too succinct in his account, speaks of the outer rampart as if it were not continuous: ובין עשרה ועשרה אמות דרכים ובהם שם עולים בעיגול "and every ten cubits there are ways (or slopes), by means of which one goes in a circle, encircling it until one reaches the top".³ He seems evidently to have a stage-like arrangement in mind. Unfortunately it is impossible to verify these statements. The bricks have all been carried off to be used in other buildings; and all that remains to mark the spot is a depression called by the Arabs *al-ṣāḥn*, "the bowl".⁴

k. Representations in Babylonian and Assyrian art; two of which only have come down to us: the representation on the so-called Loftus boundary-stone and the relief from the wall of the palace of Sargon at Nineveh. The first of these Herzfeld ignores entirely; yet there can be little doubt as to the stage character of the tower it is meant to represent.⁵ As regards the second, Herzfeld⁶ is at pains to prove that it does not represent a Ziggurat at all; but his argument is not at all convincing. The rather crude manner in which the Assyrian artists expressed themselves need not deter us from seeing in the two curves that flank the portal an attempt to picture the inclined planes of a Ziggurat. Herzfeld suggests that they represent two towers; but then there would be no reason for the curves. And the portal reminds us of a similar portal which is part of the Tīrbāl of Gōr, as described by

¹ Zehnpfund, *Die Wiederherstellung Nineves* (A. O. V, 4; 1903) p. 23 speaks of six stages; but does not give his authority for the statement.

² *Revue Archaeologique*, 1900, p. 412 et seq.

³ Adler's translation, *J. Q. R.* XVII, 527; *The Itinerary of Benjamin of Tudela* (1907), p. 43 is not quite exact.

⁴ Hilprecht, *loc. cit.* p. 553.

⁵ See e. g. Hommel, *Babyl. Assyr. Geschichte*, p. 19; Hincke, *A New Boundary-Stone of Nebuchadrezzar I from Nippur*, Phil. 1907, pp. 17, 239.

⁶ *Loc. cit.* p. 27.

Dieulafoy: "on passait d'abord sous une porte signalée actuellement par les naissances d'un arceau de 60 cm. d'épaisseur, puis on s'engageait sous une galerie recouverte d'un berceau en partie conservé".¹

A reminiscence of the Babylonian stage-tower may also be seen in the stories told about the famous tower in the castle of Ghumdān in Ṣan'ā. The ordinary report was that it was seven stories high; i. e. that it had seven stages;² though al-Hamdānī, in his *Iklīl*, is certain that it had twenty, and not seven, stories.³ A glance at the picture of the castle given in the *Corpus Inscriptionum Semiticarum*⁴ will show how the mistake arose. The rock has evidently been built upon in terrace-like formations.

The evidence here adduced does seem sufficient to permit the view that real stage-towers did exist in connection with Babylonian and Assyrian temples. But it may be wrong to assume that these were the only kind of towers constructed there. The two round towers in the mosques of Samarra and Abū Dulaf seem to point to the possibility that some of the Babylonian Ziggurat may have been built in a similar round form.

It is, however, in another part of the Mohammedan world that we are able to trace the further influence of the old Mesopotamian tradition. All through the Middle Ages, Egypt stood in close connection with Irāk and with Persia: until the Ottoman Turks brought the influence of Constantinople to bear upon the land of the Nile. The great centres of literary and of artistic development in Irāk made their influence felt in

¹ I am not able to follow Jeremias in attributing a cosmic character to the Ziggurat; *Das Alter der babylonischen Astronomie*, 1908, pp. 32-34. Max von Oppenheim, *Vom Mittelmeer zum Persischen Golf* II, 240, speaks of the tower of 'Aḡar ('Aḡr) kūf, to the north-west of Bagdad as a relic of the Babylonian period (cfr. also, Niebuhr, *Reisebeschreibung* II, 305; Rich, *Narrative of a Journey to the site of Babylon*, p. 80; Ker Porter, *Travels*, II, 275; Layard, *Nineveh and Babylon* p. 476). But Peters, *Nippur*, I, 188, 354, is probably right in holding that it does not contain the remains of a Ziggurat. The Arabic legends in regard to its origin can be read in Ṭabarī II, 917 etc.; Yāḡūt I, 863; al-Hamadhānī pp. 196, 210; *Hamzae Ispahanensis Annalium Libri X*, ed. Gottwaldt, p. 35.

² Yāḡūt III, 811; al-Kazwīnī II, 33. Cfr. Caussin de Perceval, *Essai* I, 75.

³ D. H. Müller, *Die Burgen und Schlösser Südarabiens* I, 13, 15, 56.

⁴ Vol. IV, 1. Tab. 1.

the land which has so seldom been ruled by men of its indigenous races. One of the earliest monuments of Arab architecture is the mosque of Ibn Ṭūlūn in Cairo.¹ There can be little doubt of the connection of its "corkscrew tower" on the one hand with the Pharos² in Alexandria, on the other with the minaret of Samarra. We can have some correct idea of the form of the Pharos from the description left us by Arabic writers, from a mosaic in St. Mark at Venice (twelfth century) and from a curious representation found in some manuscripts of two noted Arabic writers—Yāqūt³ and al-Kāzwinī.⁴ It was of three storeys; the first square, the second octagonal and the third round.⁵ The minaret of Ibn Ṭūlūn, also, has three storeys, but the forms of the second and the third are reversed. Now, it is quite possible that in building his minaret, Ibn Ṭūlūn was partly inspired by the Pharos at Alexandria. We know that he repaired it and added a *Kubbah* or dome on the top.⁶ But there is a distinct tradition, upon the authority of al-Kudā'ī (died 454-5 A. H.) that Ibn Ṭūlūn fashioned both his mosque and its minaret

¹ See e. g. Coste, *Architecture Arabe*, plate XXXVII; Lane, *Story of Cairo* p. 73; K. Corbet, *The Life and Works of Ahmad ibn Ṭūlūn* in *J. R. A. S.* 1891, p. 527; De Beylié, *Prome et Samara*, p. 122; Saladin, *Manuel d'art Musulman*, I, 81; Kaiser and Roloff, *Ägypten Einst und Jetzt*, 1908, p. 199. Lane-Poole, *A History of Egypt*, p. 65 adds "Architects, however, throw doubts on the antiquity of Ibn Ṭūlūn's minaret"; but no arguments are adduced.

² Alfred H. Butler was the first to suggest that the Pharos served as a model to the workmen of Ibn Ṭūlūn; see *Academy*, Nov. 20 1880; *Arab Conquest of Egypt*, p. 398. Van Berchem (*Corpus*, p. 481) holds the same view. On the other hand, Herzfeld (*loc. cit.* p. 35) thinks that the Pharos was rebuilt in accordance with the form of the minaret of Ibn Ṭūlūn. ³ I, 263. ⁴ II, 98.

⁵ Hardly *four*, as Butler, *Arab Conquest of Egypt*, p. 391 asserts. See *Khitāt*, 2nd ed., I, 254. The earliest coins containing a representation of the Pharos are dated in the year 15 of Domitian, i. e. 80 A. D. Here it has in reality only two stages, seemingly square. On the coins of Commodus the representation is strictly conventionalized: three round towers superimposed. See E. D. J. Dutilh in *Bulletin de l'Institut Egypt.* 1897, p. 24. Herzfeld (*loc. cit.* p. 33) suggests that the form of the Pharos itself is not Greek, but that it was inspired by Babylonian precedents.

⁶ *Khitāt*, 2nd ed. pp. 253, 254 (cfr. al-Si'ūnī, *Husn* I, 44). The text is not quite plain: "Ahmad ibn Ṭūlūn made some repairs in it and placed on the top a *Kubbah* of wood, that whoever entered it (the *manārah*) might be able to go to the top. It was spacious, but without a stairway".

after those of Samarra. There is little reason to doubt the correctness of this tradition, or to call it—as Herzfeld does—“Geschichtskonstruktion”. Al-Ḳudā’ī stood in high renown among Mohammedan historians of Egypt,¹ and his work was used liberally by all who have written on the history and the antiquities of the country. Aḥmad ibn Ṭulūn had spent part of his youth in Samarra;² and when he succeeded in swinging himself upon the throne of Egypt, he kept up connection with his friends in that city.³ It was with him that commenced that artistic influence of Mesopotamia in Egypt which had formerly belonged to Syria. It was one more avenue opened through which that artistic influence of late oriental civilization was to affect the early Middle Ages, on which Strzygowski has dwelt so often.⁴ And one is tempted to see both in the Pharos and in the minaret of Ṭulūn nothing more than a combination of the square or angled Ziggurat and the round one that has been presupposed in order to account for the Samarra towers.

But in one important particular the minaret of Ibn Ṭulūn differed from the Pharos; and here we must see the direct influence of Mesopotamia. In the Pharos, the ascent was covered and was, therefore, an integral part of the building. Yākūt says “It has a wide stairway which a horseman can ascend with his horse”;⁵ “The ascent is roofed over⁶ with slabs that rest upon the two walls that enclose the staircase. One mounts up to an elevated platform with encircling battle-

¹ See Becker, *Beiträge zur Geschichte Ägyptens*, I, 20; idem in *Z. A.* XXII, 430; N. A. Koenig, *The History of the Governors of Egypt by al-Kindi* (N. Y. 1908), p. 23. Strzygowski (*Jahrbuch der Königl. Preuss. Kunstsammlungen*, 1904, p. 246) also accepts the testimony of al-Ḳudā’ī.

² Ṭabarī III, 1670; Vollers, *Fragmente aus dem Mugrib des Ibn Sa’īd*, p. 7; Abūl-Maḥāsīn II, 6. ³ Vollers, *loc. cit.* p. 47, 15.

⁴ *Loc. cit.* p. 237. Cfr. René Dussaud, *Les Arabes en Syrie avant l’Islam* (Paris 1907), p. 45. On the general question, see Migeon, *Manuel d’Art Musulman* II, 71, 102, 459 et seq.

⁵ Consequently, there were no steps. Ibn Khurdābeh, *Kitāb al-Masālik*, (ed. de Goeje) p. 114, 16 has *بغیر درج*, which reminds him of the ascent in the minaret of the Samarra mosque. Mas’ūdī has the same expression; and the doubt of Butler (*Arab Conquest of Egypt*, p. 392, note 2) “it does not seem quite clear whether there were actual steps or an inclined plane for mounting the tower”, is not justified.

⁶ Yākūt has *سقفت* and not the unintelligible *سقتت* of al-Ḳazwīnī.

ments, from which one has an outlook over the sea. In this there is a space as if it were a square tower which one ascends by another series of steps unto another place from which one can look down upon the roof of the first. It is also surrounded by battlements. In this space there is a pavilion like a watchman's cabin". That he is speaking here of an inner staircase¹ is plain from his statement a little further on that this staircase winds around "something like an empty well"—a fact that is also reported by the Chinese author of the thirteenth century Chao-Yu-Kua in his ethnographic work *Chu-fan-chah*: "in the middle of the tower there was a spring".² Idrisi (twelfth century) says explicitly: "one mounts by means of a wide staircase, constructed in the interior, just as is the custom in mounting mosques".³ The minaret of Ibn Tūlūn, however, has its ascent outside, in the form of a rampart, just as was the case with the Ziggurat.⁴ The persistence of this tradition in Mesopotamia itself is seen in the tower built at Bagdad by the Caliph al-Muktafi in the eleventh century (the *Kubbat al-himār* or "Cupola of the Ass") "ascended by a spiral stair of such an easy gradient that the Caliph could ride to the summit on a donkey trained to an ambling gait".⁵

The combination of the square or angled base surmounted by a circular tower remained the predominant type of the Egyptian minaret; though the ascent has been placed inside. This general character, of course, admitted of certain variations. The minaret upon the tomb-mosque of Kalā'un is made up of a square base, surmounted by another square retrocessing and by a circular top; that on the tomb-mosque of Barķūk

¹ Hirth, *Die Länder des Islām nach chinesischen Quellen*. Supplément au Vol. V du *T'oung-Pao*, Leiden 1894, p. 53.

² *Description de L'Afrique*, p. 139.

³ Van Berchem, Saladin and de Beylié have correctly described the Pharos as telescopic in form; while the minarets at Samarra and Abū Dulaf are helicoidal. See *Prome et Samarra*, p. 115, note.

⁴ Guy le Strange, *Bagdad during the Abbasid Califate*, p. 254. A similar tower "up which four horses could be driven" is mentioned by Chao-Yu-Kua as existing at Lu-Mei, which Hirth supposes to be Damascus. If this is so, the author must confound the tower to which he refers with some other—perhaps the Pharos itself, as de Goeje suggests: *loc. cit.* p. 47.

⁵ Coste, Plate IX; Saladin I, 112. Cfr., also, the minaret of al-Ghūrī, Coste, Plate XXXVI; Prisse d'Avennes, *L'Art Arabe*, plate XXVI.

of a square base, followed by a circular construction, and then by a round top resting on pillars.¹ Sometimes the circular part was broken into an hexagonal or an octagonal. The minaret on the mosque of al-Ḥasan has a square base surmounted by an octangular tower; which is followed by a second octangular tower; the whole surmounted by a top piece resting upon columns.² This is also the form of the minaret on the madrasah of Muḥammad ibn Naṣr. The minaret of the tomb-mosque of Kait-Bey has a square base that develops before the first stage is finished into an hexagonal. Upon this is a circular tower, surmounted by a round top resting on pillars.³ At other times the square base was broken as in the minaret of the mosque of al-Mu'ayyid, where it is hexagonal;⁴ or in that of the Azhar where it is also hexagonal—surmounted by a decagonal, and this is crowned by two towers that support the top piece.⁵

Both forms, the square and the round tower, have, however, persisted uncombined in various parts of the Moslem world; the cleavage is rather marked. The square minaret persisted in Syria⁶ (whenever Egyptian influence was not at work), as can be seen in the—"Ma'dhanat al-'Arūs" in the Cathedral mosque at Damascus⁷ and even in the general character of the "Minaret of Jesus" there. That of the mosque of Zakariyya (the cathedral mosque) at Aleppo is a simple square all the way up.⁸ The Umayyads carried this form into Spain; the most noted example to day being the Giralda at Sevilla,⁹ which has been copied faithfully in the tower of the Madison Square Garden of New York City. It was also carried into Africa, where, to this day, the usual form of the minaret is square. Witness the Jama Zaitoun at Tunis, the minaret of the Kalaä Beni Ḥammad (the Berber capital of North Africa); the Katubia in Morocco, the Mosque at Oran or the Maṣurrah

¹ Coste, Plate XIV.

² E. T. Rogers and Miss Rogers in *Art Journal*, 1880, p. 77.

³ Coste, Plate XXXII.

⁴ Coste, Plate XXXI; Saladin I, 144.

⁵ Coste, Plate XXXVII. ⁶ Muḥaddasī (ed. de Goeje), p. 182.

⁷ Saladin I, 72. The top of the "Minaret of Jesus" is evidently a later addition. ⁸ Saladin I, 105.

⁹ Saladin I, 232; Adolf Fähr, *Grundriß der Gesch. der bildenden Künste*, p. 280; Lübke, *Gesch. der Architektur*, p. 81; W. and G. Marçais, *Les Monuments Arabes de Tlemcen*, p. 45.

at Tlemcen.¹ Only in a few cases, as at Hamonda Pasha in Tunis, is the absolute square broken into a hexagonal.

On the other hand, the round minaret is generally found in Mesopotamia and the countries further east.² Some of the great mausoleums, it is true, seem to represent an angular base surmounted by a short,³ pointed tower—such as the tomb of Zubaidah the wife of Hārūn al-Rashīd near Bagdad with its pyramidal stalactite top or the tomb of Ḥasan al-Baṣrī at Zobair near that same city, with its tower curiously formed of eight stages in telescopic arrangement.⁴ Nor are peculiar forms wanting; e. g. the minaret in the Sūḵ al-Ghazal at Bagdad,⁵ which though round increases in width towards the top where it finishes in a beautiful stalactite top (similar to the minaret at Amadih⁶), or the minaret at al-Ānah with its eight regular storeys,⁷ which reminds one forcibly of some of the towers recently found at Axūm.⁸ In some cases, but at a later period, the round form was frankly discarded—as in the minaret of the Bibi Khanūm at Samarcand⁹—that noble structure erected by Timūr to his much-beloved wife—which is octagonal in form, or in that of the Royal Tekiē at Teheran, which is square.¹⁰ But in general, one will find round minarets of one sort or another from Mesopotamia up to the confines of China. There is, of course, much variety in the details of these round minarets, and their architecture has been affected by local taste and racial traditions. The Minār Kalān (the great minaret) at Bokhara is an immense structure “36 feet at the base and tapering upward to a height of 210 feet”.¹¹ At times a sort of spiral is worked into the tower, as at the Imperial mosque of Ispahan,¹² or at the “Gūr Amīr”, the mausoleum of Tamerlane. In the Minar of

¹ Saladin I, 198, 217, 224, 228 etc.

² Saladin I, 289.

³ Saladin I, 320; de Beylié, *Prome et Samarra*, p. 32.

⁴ *Revue du Monde Musulman* VI, 645.

⁵ De Beylié, *Prome et Samarra*, p. 48.

⁶ Binder, *Am Kurdistan*, p. 207.

⁷ *ibid.*, p. 69.

⁸ *Jahrb. des Kaiserl. deutschen Archäolog. Inst.* 1907, pp. 45, 46. Cfr. *Am. Journ. of Archaeol.* XI, 340.

⁹ Skrine and Ross, *The Heart of Asia*, p. 392.

¹⁰ *Revue du Monde Musulman* IV, 483; Jackson, *Persia Past and Present*, p. 417.

¹¹ Skrine and Ross, *The Heart of Asia*, p. 374.

¹² Saladin I, 397.

the Kutab mosque at Delhi, the smooth surface is broken by projecting ribs which form flutes which are alternately angular and circular up to the first storey;¹ circular in the second and angular in the third. The fourth storey is plainly round.² It is this round form, though much smaller in circumference, that has been adopted by the Turks and which they evidently learned in Mesopotamia. It is this style that is found, again with very few exceptions, in Constantinople and the Balkan Peninsula.³

But it is not only in Mohammedan countries that the idea first expressed in the Babylonian Ziggurat has survived. I should not like to be misunderstood as falling in with the Babylonian exaggerations of some of our most learned Assyriologists and of seeing everything through spectacles coloured by the grandeur of the antique world. But in matters of art and of architecture especially, the borrowings and the influences have been so numerous, that one civilization may be said to stand upon the shoulders of its predecessor. It is a well-known fact that the early Christian basilica had no towers attached or superposed. The same is true of the earliest Byzantine churches in Italy—the classic home of the campanile. Even to this day there are none attached to the cathedral of Parenzo (535-543), of Prado (571-586) or to that of San Lorenzo at Milan (6th century), which are among the earliest examples of church architecture in the West. It is true that some of the old Italian churches have at present campaniles adjoining. This is the case with a number of the Ravenna churches—the Basilica Ursiana, Sant' Apollinare

¹ Ferguson, *History of Indian and Eastern Architecture*, p. 505. A similar method is employed in many of the grand palaces of Mesopotamia and in the Minar, or lighthouse at Beni Hammad in North Africa. See De Beylié in *J. A.* XII (1900) p. 197.

² Ferguson, *loc. cit.* John J. Pool, *Studies in Mohammedanism* (1892) p. 336 "It is not exactly a minaret, that is to say, it is not now, if it ever was, connected with a mosque, but it is a lofty turret or tower which is called a minar".

³ One might go still further and examine the connection that exists between the Babylonian Ziggurat and the stage-temples found in Turkestan, at Turfan, Astana and Syrchab (Grünwedel, *Bericht über archäologische Arbeiten in Idikutschari und Umgebung in Abhandl. Phil. Philol. Klasse der Bayer. Akad.* 1906, p. 49; Regel in *Petermann's Mitteil.* for 1879, 1880 and 1881); but such an examination would be foreign to the scope of the present paper.

Nuovo, Sant Apollinare in Classe. San Vitale is even surmounted by two towers. It must be noted, however, that the towers on San Vitale are not campaniles in the true sense of the term, but merely means for reaching the gallery.¹ As regards the campaniles themselves, all authorities agree that though the main edifices of the churches are of the fifth and sixth centuries, the campaniles were erected at least two centuries later.² The dating of the campanile is in no way affected by the undoubted fact that the bell was used in connection with early Christian churches. Gregory of Tours, towards the end of the sixth century, seems to be the first to mention it as part of the church paraphernalia.³ The Chronicle of the abbots of Fonteinelle, speaking of the years 734-738, mentions the "Campanum in turricula collocandum ut moris est ecclesiarum".⁴ Some of the belfries (e. g. of St. Satyrus) are supposed to be as old as the sixth century.⁵ But belfries are not towers. The oldest campaniles are supposed to date from the beginning of the ninth century—those of Santa Maria della Cella at Viterbo and Sant Ambrogio at Milan: though that of Sant Apollinare in Classe is held by some to be of the eighth century.⁶ The campanile of Sant' Apollinare Nuovo is however reliably dated between 850 and 878.

It is therefore a pertinent question—whence did this addition to church architecture come? The writer of the article "Kirchenbau" in the *Protestantische Real-Encyclopädie*⁷ is of opinion that it was an original conception both in Italy and in the Frankish Empire, and that it had no connection whatsoever with the East. I understand this to be also the meaning of Adolf Föh's words: "Ein neues Element bilden

¹ "... le torri della basilica di San Vitale, dalla muratura sincrona ad essa, furono erette per dare accesso alla gallerie superiore"; Venturi, *Storia dell' arte Italiana* (Milan 1902) II, 160.

² G. T. Rivoira, *Le origini della architettura Lombardia* (Rome 1901), I, 49 et seq.; Venturi, *loc. cit.*; Ch. Diehl, *Ravenne* (1903) p. 48.

³ Venturi, *loc. cit.* II, 149; *Protest. Real-Encycl.* VI, 704.

⁴ Cited from Eulart, *Manuel d'archéologie française* p. 174 in Arthur Kingsley Porter, *Mediaeval Architecture* (N. Y. 1909) I, 81, note 3.

⁵ Raffaele Sattaneo, *Architecture in Italy* (London 1896) p. 255.

⁶ Dehio and Van Bezold, *Die kirchliche Baukunst des Abendlandes*, I, 135.

⁷ X, 786.

die meist kreisrunden Türme".¹ But one might well ask in return—if they were not necessary as belfries, what purpose did they serve? In Ravenna they could hardly be needed as towers of defence, since the whole city was enclosed by a wall. Nor could they be used as light-houses; for that purpose they were too far distant from the shore. It is certainly peculiar that the rise of the campanile or church tower synchronizes with the coming of the Arabs into the Mediterranean. The first Arab raid upon Sicily is said to have taken place in the year 701;² and though Sicily and certain parts of Southern Italy did not come under their direct rule until the Aghlabites were strong in Africa during the ninth century,³ Arab influence permeated the Eastern Mediterranean long before that. I do not know what authority there is for the statement that the columns for the basilicas at Ravenna were made in Istria by oriental workmen;⁴ but Ravenna was a great centre from which Oriental influences passed on into Europe—not only in art, but also in decoration, in mosaics, and in miniatur-painting as well.⁵ The basilica of St. Mark at Venice, supposed to contain the remains of the saint brought thither in 828 from Alexandria, is adorned with columns garnered in the East; and the campanile has an "ascent by a continuous inclined plane built between an inner and outer wall and turning with a platform at each angle of the tower" which reminds one at once of the ascent in the Pharos at Alexandria. Like the minaret, the campanile could be either round or square. Most of the early examples are round; but square ones are not wanting, e. g. at San Giovanni Evangelista, San Francesco and San Michele in Affricisco in Ravenna. And like the minaret,⁶ the campanile was at first not an integral part of the church building. It was generally placed near to it, sometimes even leaning upon it; until in the church

¹ *Grundriß der Gesch. der bildenden Künste*, p. 228.

² Weil, *Chalifen* I, 478.

³ Weil, *loc. cit.* II, 249; Müller, *Islam* I, 551.

⁴ Baedeker, *Italie Septentrionale* (1892), p. 301.

⁵ Ch. Diehl, *Ravenne*, pp. 107-109; Venturi, *Storia dell' Arte Italiana* II, 110, 127; Corrodo Ricci, *Ravenna* (Bergamo 1902), pp. 5, 7, 64.

⁶ Lane, *Cairo Fifty Years Ago*, p. 108 "... not otherwise connected with the mosque than by an arch, over which is a way to the terraces above the arcades".

spire it became almost a necessary part of every Christian place of worship.

It seems to me, therefore, that a possible explanation of the sudden appearance of the campanile in Italy during the eighth and ninth centuries, would be that they are due to Mohammedan influence. Whether this influence came from Egypt, or from Syria and Mesopotamia, or even from the Maghreb, is a point upon which I should not like to insist. But this much does seem to follow from a study of the history of the monuments, that the old idea of the Ziggurat or tower in some way connected with worship at a shrine has filtered down to us through the Mohammedan minaret and finds its expression to day in our church steeple.

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